

**U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641**

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2006-047-EA

CASEFILE/PROJECT NUMBER (optional):

PROJECT NAME: 10 APD's and a Header Manifold Sundry

LEGAL DESCRIPTION: T. 2N, R. 103 W, sec. 13, 14, 15

APPLICANT: Chevron Production Company

ISSUES AND CONCERNS (optional): None

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: Onsite was conducted November 18, 2005

Proposed Action: The applicant is proposing to drill 7 new oil wells, 3 new injection wells and a new header manifold. The header manifold will serve as a hydrocarbon gathering point for the new wells along the northern Rangely Unit boundary. Surface location for the header manifold will be approximately 30' X 30' (.02 acres).

The table below shows the proposed disturbance for each well and associated access and pipelines. Work is anticipated to begin January 15, 2006.

NOS Reference #	Well Name	New Access road	Location Size	Pipeline Disturbance	Acres (Total)
0704	FA Larson #3X (Producing)	528' X 30' (.36 ac)	390' X 305' (2.73 ac)	1250' X 40' (1.15 ac)	4.24
0904	MC Hagood A21X (Producing)	352' X 50' (.24 ac)	390' X 305' (2.73 ac)	Included in access rd.	2.97
1104	AC MCLaughlin 92X (Producing)	104' X 30' (.07 ac)	390' X 305' (2.73 ac)	2838' X 40' (2.61 ac)	5.41
1304	AC MCLaughlin 90X (Producing)	260' X 30' (.18)	390' X 305' (2.73 ac)	2194' X 40' (2.01 ac)	4.92
1504	AC MCLaughlin 88X (Producing)	430' X 30' (.30)	390' X 305' (2.73 ac)	1789' X 40' (1.64 ac)	4.67
Sundry	Header Manifold	NA	30' X 30' (.02 ac)	NA	.02

NOS Reference #	Well Name	New Access road	Location Size	Pipeline Disturbance	Acres (Total)
1704	AC McLaughlin 91X (Injection)	80' X 30' (.06ac)	390' X 305' (2.73 ac)	3057' X 40' (2.81ac)	5.60
1706	Associated Unit A3X (Producing)	20' X 30' (.01ac)	390' X 305' (2.73 ac)	2159' X 40' (1.98ac)	4.72 PVT
1904	Associated Unit A4X (Producing)	400' X 30' (.28ac)	390' X 305' (2.73 ac)	3378' X 40' (BLM1.54ac) (PVT1.56 ac)	4.57PVT 1.54BLM
2104	AC McLaughlin 93X (Injection)	350' X 30' (.24ac)	390' X 305' (2.73 ac)	3342' X 40' (PVT3.07ac)	2.97BLM 3.07PVT
2504	AC McLaughlin 94X (Injection)	793' X 30' (.55ac)	390' X 305' (2.73 ac)	2292' X 40' (2.10ac)	5.38
Total Project Acres					50.08
Total BLM Acres					37.72

Total disturbance for the project will be 50.08 acres. Total disturbance on BLM is 37.72 acres.

Ancillary facilities are not planned for now or in the near future. Fences are not present on the property; therefore installing gates, cattle guards, or cutting fences will not be required. Water used for drilling the wells will be from an existing injection line on location. Fuel gas for drilling will be by a temporary surface pipeline from the existing residue gas fuel line.

Reserve pits will be constructed approximately 8' deep and at least one half of this depth shall be below the surface of the existing ground. The reserve pits will be used as a storage area during the drilling of this well to store non-flammable materials such as cuttings, salts, drilling fluids, chemicals, produced fluids, etc. The pits will be fenced with 32" to 48" high woven wire to protect wildlife and domestic animals. After the completion rig finishes, cuttings and drilling fluids will be buried in the reserve pit and the surface contoured to conform to surrounding terrain. Prior to burial of cutting and mud, any liquid oil or water will be trucked to the recovery plant. If it becomes necessary to keep the pit, it will remain fenced with woven wire until covered. Overhead flagging will be installed over pits should oil accumulate or be discharged. Trash will be confined in a covered container and hauled to an approved landfill. A portable toilet will be supplied for human waste.

The White River Field Manager will be notified at least 24 hours prior to commencing reclamation work. At that time, when all drilling and production activities have been completed, the location site will be reshaped to the original contour. Distribute topsoil, disk and seed all disturbed areas outside the work area according to the seed mixture chart. Any drainage re-routed during the construction activities shall be restored to their original line of flow as near as possible. Prior to burial of cutting and mud, any liquid oil or water will be trucked to the recovery plant. The disturbed areas not needed for well operation and access roads will be revegetated and rehabilitated per the remainder of the season. All disturbed surfaces will be seeded with the following seed mixture:

Chevron's Seed Mix	
Species (Variety)	Lbs PLS/Acres

Chevron's Seed Mix	
Species (Variety)	Lbs PLS/Acres
Crested Wheatgrass (Nordan)	3
Siberian Wheatgrass (Vavilov)	4
Russian Wildrye (Swift)	2
Fourwing Saltbrush (Wytana)	1
Oats (VNS)	0.5
Total	10.5

The seedbed will be prepared by disking following the natural contour. Drill seed on contour at a depth no greater than ½ inch. In areas that cannot be drilled, broadcast at double the seeding rate and harrow seed into the soil. Certified seed will be used. Fall seeding must be completed after September 1, and prior to prolonged ground frost. Perennial vegetation must be established.

During operations, if discoveries of any cultural remains, monuments or sites, or any object of antiquity subject to the Antiquity's Act of June, 1906 (34Stat. 225; 16 U.S.C. Secs. 431-433), the Archeological Resources Protection Act of 1979 (PL 96-95), and 43 CFR, Part 3, operations will immediately cease and will be reported directly to the Field Manager. In cases where the project proponent does not wish to relocate the proposed action and mitigative data recovery is necessary, the cost of such mitigation shall be borne by the operator, unless otherwise agreed upon in writing.

Approval shall be requested to continue operations should the surface become saturated to a depth of three (3) inches. Turnouts will not be required. The well cellar will be covered with steel grating and no hazards will exist for livestock or wildlife. All permanent facilities placed on the location will be painted Carlsbad Canyon Brown (Fuller Brand Colorant 31293 or equivalent) to blend with the natural environment.

For final reclamation, when any of the wells are abandoned, the locations will be restored to the original contours. During reclamation of the site, fill material will be pushed into the cuts and up over the back slope. Depressions will not be left that will trap water or form ponds. Topsoil will be distributed evenly over the location, and seeded according to the seed mixture chart. The access road and location will be disked prior to seeding. Perennial vegetation must be established.

No Action Alternative: In the no-action alternative the wells, access roads, flowlines and header manifold would not be permitted; therefore there would not be any new disturbance.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD: None

NEED FOR THE ACTION: To respond to the request by applicant to exercise lease rights and develop hydrocarbon reserves.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Pages 2-5

Decision Language: “Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values.”

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The proposed actions are located approximately 6.3 miles southeast of Dinosaur Natl. Monument Visitor Center which is a Class II airshed with special designations regarding visibility.

Environmental Consequences of the Proposed Action: Reductions in vegetal cover resulting from construction activities will leave soils temporarily exposed to eolian processes. During dry and windy periods, air quality may be compromised due to increased levels of fugitive dust originating from the exposed construction area. The proposed action alone should not greatly compromise National Ambient Air Quality Standards (NAAQS) on an hourly or daily basis. Exhaust produced from heavy equipment associated with the proposed actions combined with the increasing number of fluid mining activities north of Rangely, CO may have cumulative impacts detrimental to local air quality.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have

done so. All disturbed areas will be immediately covered with available woody debris and revegetation efforts will follow as outlined in the vegetation section of this document.

CULTURAL RESOURCES

Affected Environment: MC Hagood A20X {AC McLaughlin 92X?}(1104) well and well tie pipeline: The proposed well and well tie pipeline are located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

#1904 Producing well location and well tie pipeline: The proposed well and well tie pipeline are located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

#1304, A.C. McLaughlin 90X well and well tie pipeline: The proposed well and well tie pipeline are located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

#0704, F.A Larson 3X well and well tie pipeline: The proposed well and well tie pipeline are located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

#0904, M.C. Hagood 21X well and well tie pipeline: The proposed well and well tie pipeline are located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

#1504, A.C. McLaughlin 88X well and well tie pipeline: The proposed well and well tie pipeline are located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

#2104 well location and well tie pipeline: The proposed well and well tie pipeline are located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

#2504 well location and well tie pipeline: The proposed well and well tie pipeline are located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

#1706 well location and well tie pipeline: The proposed well and well tie pipeline are located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

#1704 well location and well tie pipeline: The proposed well and well tie pipeline are located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

Proposed Manifold Header: the proposed manifold header is located in an area covered by an inventory (Larralde 1981, Compliance Dated 2/18/2981) and covered by an agreement with the Colorado SHPO. No cultural resources are recorded in the proposed well pad area.

Environmental Consequences of the Proposed Action: It does not appear that any of the proposed well locations and associated well tie pipelines or the proposed manifold header will impact any known cultural resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to cultural resources under the No Action Alternative.

Mitigation: For all well locations well tie pipelines/flowlines, and the proposed manifold header:

1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items,

sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The proposed action is located within Alkaline Slope and Clayey Saltdesert ecological sites, which are dominated by salt tolerant vegetation. The dominate plant community for these sites consist of greasewood, Wyoming big sagebrush, and various saltbrushes such as shadscale, gardner saltbrush, mat saltbush, and fourwing saltbrush. The understory of these shrubs is dominated by western wheatgrass, salina wildrye, and squirreltail. Cheatgrass and halogeton are both annual plant species that are undesirable, invasive, and non-native plants which are present within the locality of the proposed action. Both of these species are highly adapted to disturbed soils.

The soils within the project area are principally a Billings Silty Clay Loam (Alkaline Slope ecological site) and Chipeta Silty Clay Loam (Clayey Saltdesert ecological site). These soil types have a high clay content that is moderate to highly erosive and receives low precipitation with rapid runoff, thus limiting forage production and hampering re-vegetation efforts leading to the potential establishment of invasive species.

Drought conditions, outside of this current year, have been very prevalent within the Coal Oil Basin area, which has hampered the successful establishment of reclaimed plant species of other projects in this area. Therefore, undesirable and invasive annual plant species (i.e. halogeton, cheatgrass) have become dominate in portions of previously disturbed areas which provide little resource value and hinder efforts to meet Public Land Health Standards.

Environmental Consequences of the Proposed Action: Weed species found in the area are effectively controlled by establishment of seeded species within disturbed areas. The proposed seed mix, which includes non-native species, is recommended because its associated plant species are highly adapted to this site (heavy clay soils) and offer the greatest opportunity to establish vegetation cover that will result in soil stabilization. Thereby, the proposed seed mix will provide a competitive interaction between seeded species and noxious and/or invasive weed species such as cheatgrass and halogeton.

The mitigated seed mix from the RMP (Standard Seed Mix #1) includes non-native plant species due to the harsh and restrictive conditions associated with the proposed area (see the Vegetation section). Limiting factors for successful reclamation of the site includes soils with a high clay content, low annual precipitation, drought prone, and cheatgrass establishment on the adjacent rangelands. These mitigated non-native species have demonstrated themselves to have the greatest ability to establish, provide soil protection, and offer a competitive interaction against invasive, non-native species such as cheatgrass.

Prompt reclamation with successful establishment would help prevent cheatgrass and halogeton from establishing on disturbed sites. If other noxious weeds were to invade the site, prompt control would prevent movement to the adjacent plant communities.

There is an opportunity for other noxious weed species to be transported onto landscapes associated with the proposed action by construction and/or support equipment.

Environmental Consequences of the No Action Alternative: None

Mitigation: The applicant shall monitor the disturbed and reclaimed areas for the presence of invasive, non-native, and/or noxious plant species that have become established as a result of the proposed action. The applicant will be responsible for controlling cheatgrass, noxious weeds, and/or problem weeds should they occur and/or increase in density as a result of the proposed action.

Upon detection of noxious, non-native, and/or invasive plant species, the applicant will control their presence before seed production using materials and methods as outlined in the RMP and/or authorized in advance by the White River Field Office Manager. Application of herbicides must be under field supervision of an EPA certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

MIGRATORY BIRDS

Affected Environment: The project area is encompassed by arid salt desert shrublands consisting principally of shadscale, matt and Gardner saltbush, rabbitbrush, snakeweed and big sagebrush. Herbaceous groundcover is comprised mainly of cheatgrass with introduced and native grasses scattered throughout. These salt desert communities typically support several migratory bird species which fulfill nesting functions between late-May through mid-July including vesper and sage sparrow, western meadowlark, sage thrasher and horned lark.

Environmental Consequences of the Proposed Action: It is unlikely that this project will have any conceivable influence on breeding activities as all construction activities associated with the proposed action will take place either prior to or after the nesting season (late-May through mid-July).

Although the project area and areas adjacent to the project area have no open water or wetland areas to support or attract waterfowl, the development of reserve pits that contain drilling fluids may attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water at least during migration (i.e., local records: mid-March through late May; mid-October through late November). It has recently been brought to this Field Office's attention that migratory waterfowl (i.e., teal and gadwall) have contacted oil-based drilling fluids stored in reserve pits during or after completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to

preventing bird contact with produced water and drilling and completion fluids that may pose a problem (e.g., acute or chronic toxicity, compromised insulation).

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to influence the reproductive activities or habitat of migratory birds.

Mitigation: It will be the responsibility of the operator to eliminate migratory bird access to reserve pits that store or are expected to store fluids that pose a risk to these birds (e.g., waterfowl, wading birds, raptors, and songbirds) during drilling and completion activities and until such pits are reclaimed. Exclusion methods may include netting, the use of “bird-balls”, or other alternative methods that effectively eliminate migratory bird access to pit contents and meet BLM-approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to eliminate migratory bird use two weeks prior to when drilling activities are expected to begin. The BLM approved method will be applied within 24 hours after drilling activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to a White River Field Office Petroleum Engineer Technician immediately.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: The project area is broadly encompassed by white-tailed prairie dog (WTPD) habitat. Field visits conducted during November indicate evidence of occupation by prairie dogs at all proposed pad sites (Table 1). To avoid intersecting large numbers of prairie dog burrows associated with flowline trenches, Chevron, at the former request of BLM, offsets parallel flowlines by 15 or more feet.

Table 1 WTPD habitat (mounds and single entrance burrows) affected by the construction of proposed well pads, flowlines and access roads in Rangely Oil Field.

Well Name	Location Size	Acres (Total)	No. mounds/burrows affected
FA Larson #3X (0704)	390' X 305' (2.73 ac)	4.24	~ 10 mounds
MC Hagood A21X (0904)	390' X 305' (2.73 ac)	2.97	18 mounds/6 burrows
AC MCLAughlin 92X (1104)	390' X 305' (2.73 ac)	5.41	7 mounds
AC MCLAughlin 90X (1304)	390' X 305' (2.73 ac)	4.92	12 mounds
AC MCLAughlin 88X (1504)	390' X 305' (2.73 ac)	4.67	6 mounds
1704	390' X 305' (2.73 ac)		~ 3 mounds
1706	390' X 305' (2.73 ac)		~ 10 mounds
1904	390' X 305' (2.73 ac)		6 mounds
2104	390' X 305' (2.73 ac)		5 mounds
2504	390' X 305' (2.73 ac)		7 mounds

Prairie dogs and their burrow systems are important components of burrowing owl habitat, as well as potential habitat for reintroduced populations of black-footed ferret. Burrowing owls, a State threatened species are uncommon in this Resource Area. These birds return to occupy a

maintained burrow system in early April and begin nesting soon after. Most birds have left the area by September. While burrowing owls have been documented in Rangely Oil Field, no burrowing owl nesting activity has been recorded near the 11 proposed well sites or flowline corridors.

Under the auspices of a non-essential, experimental population rule, black-footed ferrets have been released annually in Coyote Basin (eight miles southwest) and Wolf Creek (13 miles northeast) of Rangely Oil Field since 1999 and 2001, respectively. The rule applies to any ferrets that may occupy or eventually be released in northwest Colorado and northeast Utah. Although there is no direct continuity between Coyote Basin or Wolf Creek and the project site (i.e., lesser physical barriers and habitats unoccupied by prairie dog) there is a strong likelihood that ferrets have colonized and successfully breed in Rangely Oil Field. Ferrets are wholly reliant on prairie dogs for food and shelter. Ferret breeding activities begin in early March, with birthing beginning in early May. Young ferrets generally begin to emerge by mid-July. There have been no verified sightings of ferrets, nor any known reproduction occurring in Rangely Oil Field.

Environmental Consequences of the Proposed Action: Until burrowing owls arrive on these breeding ranges in April, there is no credible means of assessing impacts to nest activity. In the event earthwork associated with this project cannot be completed prior to early April, BLM would conduct nest surveys on the affected flowlines and pads and conditions of approval would be applied to defer activities that may interfere with successful nest outcomes (under provisions of the Migratory Bird Treaty Act).

This project would have no short or long term influence on prairie dog abundance or distribution by itself or as habitat for black-footed ferret or burrowing owl. It is highly unlikely that any subsurface disturbance associated with this proposed action would intersect a prairie dog burrow system occupied by a ferret.

Environmental Consequences of the No Action Alternative: There would be no potential influence on prairie dogs as habitat for burrowing owl and black-footed ferret in the case of a no action alternative.

Mitigation: With the exception of site 1704, all earthwork will be conducted outside the period of 1 April to 15 July to avoid the remote chance of disrupting the reproductive activities of ferrets, burrowing owl, and prairie dogs. All flowlines and rights-of-way involved in this action will be reclaimed and reseeded with the recommended seed blend listed in the proposed action.

To avoid intersecting large numbers of prairie dog burrows associated with flowline trenches, Chevron will offset those flowlines that parallel existing flowlines by 15 or more feet.

Finding on the Public Land Health Standard for Threatened & Endangered species: Public Land Health Standards for those special status species associated with white-tailed prairie dogs, including black-footed ferret and burrowing owl, in the Rangely Oil Field are currently met. As conditioned, this project would have no adverse influence on populations, available extent of suitable habitat, or the reproductive activities of these three species. Thus, there would be no influence on meeting the land health standard. Small incremental gains in perennial grass

cover associated with successful reclamation and subsurface tillage associated with flowline installation may be expected to bolster local populations of prairie dogs and potentially benefit individual burrowing owl and black-footed ferret—effects consistent with continued meeting of the Land Health Standards.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface Water: The proposed actions are located within the Stinking Water Creek catchment area. Stinking Water Creek is a tributary to the White River and is situated in stream segment 22 of the White River Basin. Stinking Water Creek flows primarily in response to snow melt, groundwater discharge and precipitation events (see Table 1). Table 1 contains historic water quality and flow data for Stinking Water Creek near Rangely, CO. Note that high values for specific conductance (SC) correspond with low flow periods (ground water discharge [base flow]) while lower SC values are associated with periods of higher flow. This correlation indicates that normal surface runoff is of fair water quality while SC readings taken during low flows are skewed by the geology and soil chemistry of the channel bottom at the point of measurement.

Table 1: Stinking Water Creek-Near Rangely, CO (T2N, R102W, Sect. 32 SENE)						
Date	Temp. °C	SC	pH	Type of Meas.	Discharge (cfs)	Comments
4/9/1981	--	--	--	OBS	0.000	Dry
5/4/1981	20	1,890	7.6	Rod	5.99	
10/13/1981	7.9	1,120	7.9	Rod	31.9	~100-200' above bridge
4/12/1982	16	30,700	--	Rod	0.020	~100-200' above bridge
5/11/1982	21.5	31,890	--	Rod	0.100	~100-200' above bridge
11/4/1982	8	16,500	--	Volumetric	0.005	~100-200' above bridge

Table 1: Stinking Water Creek-Near Rangely, CO (T2N, R102W, Sect. 32 SENE)						
Date	Temp. °C	SC	pH	Type of Meas.	Discharge (cfs)	Comments
4/6/1983	5.3	20,000	7.9	Rod	0.032	SC pegged meter
5/4/1983	12.8	7,940	8.3	Rod	0.425	
6/1/1983	23.8	27,000	8.3	Volumetric	0.008	Lab SC
7/11/1983	--	--	--	OBS	0.000	Dry
4/6/1984	8.5	9,430	8.2	Rod	0.600	
5/11/1984	21.4	3,430	8.3	Rod	2.14	
6/30/1984	26.9	20,000	8.2	Volumetric	0.004	SC pegged meter
7/24/1984	32.6	7,560	7.8	Volumetric	0.011	
9/5/1984	--	--	--	OBS	0.000	Dry
4/16/1985	10.1	7,580	8.2	Volumetric	0.004	
5/17/1985	22.3	12,520	8.2	Volumetric	0.005	
6/7/1985	21.1	2,140	8.4	Rod	8.33	
7/26/1985	--	--	--	OBS	0.000	Dry
4/10/1986	12.8	2,830	8.3	Rod	3.15	
5/29/1986	25.1	14,430	8	Volumetric	0.040	
7/2/1986	--	--	--	OBS	0.000	Dry
5/9/1988	22	4,920	7.9	Volumetric	0.002	
6/8/1988	--	--	--	OBS	0.000	Dry

A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list, the White River ROD/RMP, and the Unified Watershed Assessment was done to see if any water quality concerns have been identified. It should be noted that the White River from Douglas Creek to the state line is listed on the states monitoring and evaluation list (M&E list) as being sediment impaired. In addition, the White River ROD/RMP has identified this portion of the White River as NOT meeting state water quality standards for suspended sediment, salinity, and nutrients. Stinking Water Creek has been listed in the White River ROD/RMP as a proposed fragile watershed.

The State has classified stream segment 22 as "Use Protected". Stream segment 22 has been further designated by the state as being beneficial for the following uses: Warm Aquatic Life 2, Recreation 1b, and Agriculture. The antidegradation review requirements in the Antidegradation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. For stream segment 22, minimum standards for four parameters have been listed. These parameters are: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 325/100 ml, and 205/100 ml E. coli.

Ground Water: A review of the US Geological Survey Ground Water Atlas of the United States (Topper et al., 2003) was done to assess ground water resources at the location of the proposed actions. Information presented in Topper et al. (2003) indicates the extent of the Mesaverde aquifer encompasses the area know as the "Coal Oil Basin" north of Rangely, CO. The proposed locations are situated on the descending limb of an anticline which surface geologic formation is Cretaceous in age (Mancos Shale). The Mancos Shale (confining unit) has an approximate thickness of 7,000' feet. This unit is comprised primarily of shale however within the unit, the Frontier Sandstone may occur as a local aquifer which is of poor water quality (highly saline).

Environmental Consequences of the Proposed Action: Surface Water: Further use of existing access roads, construction of new access roads, and construction of well pads/pipelines will increase soil exposure to erosional processes. Heavy equipment use will destroy any existing vegetation and increase compaction. Increased compaction combined with reduced vegetation will further decrease infiltration rates and elevate erosive potential due to runoff (overland flows) and raindrop impact during storm events. Given the low permeability rates of the affected soils, leaks or spills of environmentally unfriendly substances are likely to be carried down gradient as runoff and could potentially deteriorate surface water quality.

Ground Water: In the event of any leaks or spills, local ground water may be adversely impacted as runoff could carry contaminants down gradient to alluvial aquifers such as the White River Alluvial Aquifer (~ 8 miles down gradient) which is a source of drinking water for the town of Rangely, CO. Potential for ground water contamination increases if fractures in the formation are encountered. Hydraulic conductivity increases exponentially along fracture zones resulting in rapid transport of fluids/contaminants in these areas.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal water quality regulations. Under Phase I Stormwater Regulations, the Environmental Protection Agency (EPA) has required National Pollution Discharge Elimination System (NPDES) permit coverage for stormwater discharges from construction activities that disturb five or more acres. The operator will obtain a phase I permit (if they have not already done so) and provide its EPA approved Stormwater Pollution Prevention Plan (SWPPP) to the BLM. Any operations resulting in discharges of fill material (e.g. fill material generally include, without limitation: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction) involving waters of the US (drainages shown as blue lines on 1:24,000 maps) will require a Army Corps 404 permit whether the work is permanent or temporary. The operator will also be required to provide the BLM with documentation that all required permits were obtained.

All surface disturbing activities will strictly adhere to “Gold Book” surface operating standards for oil and gas exploration and development (copies of the “Gold Book” can be obtained at the WRFO). To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. Following abandonment of the well pad all disturbed surfaces will be recontoured to the original grade promptly covered with a sufficient amount of woody debris (if available) and seeded with the appropriate seed mixture as outlined in the vegetation section of this document.

To mitigate potential surface erosion at well pads, interim reclamation will be required. Interim reclamation will consist of all excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilized on slopes exceeding 5% (e.g. fill slopes, ephemeral drainages, etc...).

To mitigate potential contamination of local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment is suggested to intercept such contaminants prior to contacting soils.

Finding on the Public Land Health Standard for water quality: Stream segment 22 is currently listed as meeting water quality standards. Stinking Water Creek is a tributary to the White River (Segment 21) which is listed on the states M&E list for sediment impairment, any increase in sedimentation to Stinking Water Creek will directly impact segment 21 of the White River. However, with suggested mitigation, water quality within the Stinking Water Creek catchment area will remain unchanged and no deterioration of water quality down stream is anticipated as a result of the proposed actions.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: There are no wetlands or riparian habitats conceivably affected by this action. The White River, representing the nearest aquatic habitat, is separated from the project area by about eight miles of ephemeral channel.

Environmental Consequences of the Proposed Action: The proposed action would have no influence on wetland or riparian areas.

Environmental Consequences of the No Action Alternative: The no-action alternative would have no influence on wetland or riparian areas.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: The proposed action and no action alternatives would have no conceivable influence on the condition or function of riparian areas or associated habitats and therefore would have no influence on continued maintenance of associated land health standards.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACEC's, flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers, threatened, endangered or sensitive plants exist within the area affected by the proposed action. For threatened, endangered and sensitive plant species Public Land Health Standard is not applicable since neither the proposed nor the no-action alternative would have any influence on populations of, or habitats potentially occupied by, special status plants. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The following data is a product of an order III soil survey conducted by the Natural Resources Conservation Service (NRCS). The accompanying table highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office.

Soil Number	Soil Name	Acres/% Acreage Impacted (15mR)	Slope	Ecological site	Salinity (Mmohs/cm)	Run Off	Erosion Potential	Bedrock
7	Billings silty clay loam	9.5/19%	0-5%	Alkaline Slopes	2-8	Rapid	Moderate to high	>60
16	Chipeta silty clay loam	35.25/72%	3-25%	Clayey Salt desert	4-16	Rapid	High	10-20
18	Chipeta-Killpack silty clay loam	4.64/9%	3-15%	Clayey Salt desert	4-16	Rapid	High	10-20

Control surface use (CSU-1) “saline soils” will be encountered at the following four locations: #1304, #1904, #2104, and #2504. Given a 15 meter buffer, 26.99 acres of “saline soils” (55% of all affected acreage) will be impacted by surface disturbing activities. However, given the degree of previous surface disturbance in the area, lack of topography, and suggested mitigation, an engineered construction/reclamation plan will NOT be required.

It should be noted that the access road and flowline to location #1904 is situated on private surface as is the flowline and CO₂ Line for location #2104. For locations on private surfaces only down-hole stipulations will apply.

7-Billings silty clay loam (0 to 5 percent slopes) is a deep, well drained soil situated on alluvial valley floors, flood plains, narrow valley floors, and terraces. It formed in calcareous, silty alluvium derived dominantly from shale. The native vegetation is mainly desert shrubs and grasses. Typically, the upper part of the surface layer is light gray silty clay loam about 2 inches thick. The lower part is pale brown silty clay loam about 4 inches thick. The underlying material to a depth of 60 inches or more is silty clay loam that has a few fine gypsum crystals. Permeability of this Billings soil is slow. Available water capacity is high. Effective rooting depth is 60 inches or more. Runoff is rapid, and the hazard of water erosion is moderate to high.

16-Chipeta silty clay loam (3 to 25 percent slopes) is a shallow, well drained soil found on low, rolling hills and on toe slopes. It formed in residuum derived from calcareous, gypsiferous shale. The native vegetation is mainly salt-tolerant shrubs and grasses. Typically, the surface layer is light brownish gray silty clay loam about 3 inches thick. The next layer is light olive gray silty clay about 6 inches thick. The underlying material is light olive gray silty clay that has fine shale chips and seams of crystalline gypsum and is about 9 inches thick. Shale is at a depth of 18 inches. Depth to shale ranges from 10 to 20 inches. Permeability of this Chipeta soil is slow.

Available water capacity is low. Effective rooting depth is 10 to 20 inches. Runoff is rapid, and the hazard of water erosion is high.

18-Chipeta-Killpack silty clay loams (3 to 15 percent slopes) can be found on low, rolling hills, ridges, toe slopes, and the sides of narrow valleys. The native vegetation is mainly salt-tolerant desert shrubs and some grasses. Elevation is 5,100 to 5,800 feet. The average annual precipitation is 7 to 9 inches, the average annual air temperature is 47 to 49 degrees F, and the average frost-free period is 105 to 135 days. The Chipeta soil is shallow and well drained. It formed in residuum derived dominantly from calcareous gypsiferous shale. Typically, the surface layer is light brownish gray silty clay loam about 3 inches thick. The next layer is silty clay about 6 inches thick. The underlying material is silty clay that has fine shale chips and seams of crystalline gypsum and is about 9 inches thick. Platy shale is at a depth of 18 inches. Depth to shale ranges from 10 to 20 inches. Permeability of the Chipeta soil is slow. Available water capacity is low. Effective rooting depth is 10 to 20 inches. Runoff is rapid, and the hazard of water erosion is high.

The Killpack soil is moderately deep and well drained. It formed in residuum and colluvium derived dominantly from calcareous, gypsiferous shale. Typically, the surface layer is light gray and light brownish gray silty clay loam 4 inches thick. The underlying material is silty clay loam that has some fine shale chips and seams of crystalline gypsum and is 26 inches thick. Platy shale is at a depth of 30 inches. Depth to shale ranges from 20 to 40 inches. Permeability of the Killpack soil is slow. Available water capacity is moderately low. Effective rooting depth is 20 to 40 inches. Runoff is rapid, and the hazard of water erosion is high. If this unit is used for urban development, the main limitations are shallow soil depth, slow permeability, and rapid runoff.

Environmental Consequences of the Proposed Action: Clearing of vegetation for construction activities will leave soils exposed to erosional processes. Soils will exhibit lower infiltration and permeability rates after construction which will elevate erosive potential. Given the soil composition, improper drainage from access roads, well pads, and pipelines could lead to soil piping and large salt deposits which will hinder revegetation efforts. Any leaks or spills of environmentally unfriendly substances could contaminate soils also hindering revegetation efforts.

Environmental Consequences of the No Action Alternative: None

Mitigation: All construction must comply with “Gold Book” surface operating standards for Oil and Gas development.

Vegetation removed for installation of the surface line will be immediately spread back over the disturbed area following construction. Revegetation efforts using a BLM specified seed mixture will follow as outlined in the vegetation section of this document.

Given the salt concentration of the impacted soils, the operator will be responsible for monitoring salts leaching from soils. If large salt deposits begin to appear, the operator will

notify BLM, together they will coordinate the application of best management practices to help mitigate the problem.

Finding on the Public Land Health Standard for upland soils: Infiltration and permeability rates will be reduced with increased soil compaction. Following proper mitigation techniques and reclamation procedures, soil health will remain unchanged from current conditions.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The proposed action is located within Alkaline Slope and Clayey Saltdesert ecological sites, which are dominated by salt tolerant vegetation. The dominate plant community for these sites consist of greasewood (*Sarcobatus vermiculatus*) and various saltbrushes such as shadscale (*Atriplex confertifolia*), gardner saltbrush (*Atriplex gardneri*), mat saltbush (*Atriplex corrugate*), and fourwing saltbrush (*Atriplex canescens*). Other brushes intermixed in the area are various rabbitbrushes (*Chrysothamnus spp.*) and Wyoming big sagebrush (*Artemisia tridentata*). The understory of these shrubs primarily consists of western wheatgrass (*Agropyron smithii*), salina wildrye (*Elymus salinus*), sandberg bluegrass (*poa secunda*), and bottlebrush squirreltail (*Sitanion hystrix*). Cheatgrass (*Bromus tectorum*) and halogeton (*Halogeton glomeratus*) are undesirable, invasive, and alien plant species that are present within the locality of the proposed action.

The soils within the project area are principally a Billings Silty Clay Loam (Alkaline Slope ecological site) and Chipeta Silty Clay Loam (Clayey Saltdesert ecological site). These soil types have a high clay content that is moderate to highly erosive and receives low precipitation with rapid runoff, thus limiting vegetative production and hampering re-vegetation efforts.

Drought conditions, outside of this current year, have been very prevalent within the Coal Oil Basin area which has hampered the successful establishment of reclaimed plant species of other projects in this area. Therefore, undesirable and invasive annual plant species (i.e. halogeton, cheatgrass) have become dominant in portions of previously disturbed areas which provide little resource value and hinder efforts to meet Public Land Health Standards.

Environmental Consequences of the Proposed Action: The proposed action would disturb a mid to low seral class of saltdesert shrub community for a total of 37.72 BLM acres, which can be broken into long-term and short-term losses.

Long-term vegetative losses would include 23.86 BLM acres disturbed that are associated with well pads and access roads. This acreage would decrease with well pad reclamation outside of the operational area. Short-term losses include 13.86 BLM acres resulting from pipelines. Short-term soil and vegetation disturbances would be offset by successfully reclaiming the disturbed area with a seed mix that is suited for this ecological site. As this area has a component of cheatgrass and halogeton (undesirable, non-native, and annual plant species) within the plant community, successful re-vegetation efforts would slightly increase desirable plant species within the rangelands.

Without successful reclamation of seeded species within this harsh landscape, a potential exist to increase the ground cover of undesirable plant species that invade disturbed sites. Limiting factors for successful reclamation of the site includes soils with a high clay content, low annual precipitation, drought prone, grazing use, and cheatgrass (invasive, non-native, and annual grass) establishment on the adjacent rangelands.

Previously this area has entailed considerable impacts from oil and gas activities from a network of well pads, powerlines, pipeline corridors, and access roads; which have resulted in a fragmentation and reduction of available/productive ecological sites.

Environmental Consequences of the No Action Alternative: None

Mitigation: Promptly re-vegetate all disturbed areas outside of the well operation and access roads, including all cut and fill slopes and topsoil stockpiles, with the proposed seed. Seeding rates in the RMP and proposed table are shown as pounds of Pure Live Seed (PLS) per acre and apply to drill seeding. For broadcast application, double the seeding rate and then harrow to insure seed coverage. Applied seed must be certified and free of noxious weeds and seed certification tags must be submitted to the Area Manager within 30 days of seeding. The applicant will be responsible for controlling cheatgrass, noxious weeds, and/or problem weeds should they occur and/or increase in density as a result of the proposed action. To control undesirable plant species, the applicant will use materials and methods as outlined in the RMP or authorized in advance by the White River Field Office Manager.

The applicant shall be required to achieve a reclamation success rate of sufficient vegetative ground cover from reclamation plant species within three growing seasons. The reclamation shall be comparable of that of the nearby undisturbed plant communities at a Potential Natural Community (PNC) state in relation to the seed mix as deemed appropriate by the BLM.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The proposed action would disturb a segment of the Alkaline Slope and Clayey Salt-desert ecological sites. Therefore, the action would further fragment these areas.

Early seral ecological sites associated with the proposed action lack desirable plant species at an appreciable density and frequency level, thus they are not meeting standards. This is largely due to the prevalence of cheatgrass and halogeton within the vegetative understory. A slight positive benefit would be received through a successful re-vegetation effort, thus increasing preferred plant species within this low producing rangeland. Mid seral ecological sites at the proposed action locality have acceptable components within the plant community and are meeting standards for public land health.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: There are no aquatic habitats conceivably affected by this action. The White River, representing the nearest aquatic habitat, is separated from the project area by about eight miles of ephemeral channel.

Environmental Consequences of the Proposed Action: The proposed action would have no influence on aquatic wildlife or associated habitat.

Environmental Consequences of the No Action Alternative: The no action alternative would have no influence on aquatic wildlife or associated habitat.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial):

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: This heavily developed portion of Coal Oil Basin is inhabited year-round by a small resident herd of pronghorn. These animals are acclimated to routine oil and gas production activities. A number of raptors forage opportunistically during the winter in Coal Oil Basin, the most common being rough-legged hawks, red-tailed hawks, and golden eagle. The project area and the surrounding area provide no special or unique habitat features for nesting raptors.

Environmental Consequences of the Proposed Action: This project, as mitigated, would have no conceivable adverse consequences on big game distribution or habitat quality. Right-of-way reclamation normally provides herbaceous forage opportunity in excess of that previously existing and in many cases will replace cheatgrass and halogeton-dominated understories almost immediately after construction is complete. Standard reclamation procedures would provide the opportunity to increase the perennial grass component on these corridors in the longer term, increasing ground cover and seed production and prolonging the availability of green herbaceous forage for resident big and non-game animals. While surface disturbance would cause a longer-term reduction in woody forage supply, the incremental shrub reductions are wholly insignificant with respect to the available forage base.

Environmental Consequences of the No Action Alternative: There would be no potential influence on big game distribution or habitat quality in the case of a no action alternative.

Mitigation: It is recommended that all flowlines, gas/water lines and rights-of-way associated with the proposed action be reclaimed and reseeded using the appropriate seed blend listed in the proposed action.

With the exception of necessary pipeline maintenance, it is recommended that Chevron deter all vehicle traffic along those rights-of-way associated with the proposed action.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): Much of the ground cover within the Rangely Field is dominated by annual weeds. Although these sites in and of themselves cannot be considered meeting the definition of the land health standard, the majority of the shrubland communities comprising this landscape likely retain sufficient character to support viable populations of resident wildlife, although likely at populations reduced from potential. Subsequent reclamation offers an opportunity to reestablish herbaceous forage and cover conditions (i.e., redevelopment of a perennial bunchgrass component) more consistent with the proper functioning of these arid salt desert communities as wildlife habitat, thus better opportunity to meet the land health standard.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation		X	
Cadastral Survey	X		
Fire Management	X		
Forest Management	X		
Geology and Minerals			X
Hydrology/Water Rights	X		
Law Enforcement		X	
Noise		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations		X	
Recreation		X	
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

GEOLOGY AND MINERALS

Affected Environment: The surface geologic formation of the wells is Mancos and Chevron's targeted zone is in the Weber. During drilling potential water, oil and gas zones will be encountered from surface to the targeted zone. Hydrogen sulfide (H₂S) gas exists in the Weber Formation within the Rangely Field. Concentrations vary across the field (+/- 100-700 ppm) due to a long history of production in conjunction with water and CO₂ injection. All of the wells are located in the northwestern corner of the Rangely Field part of the Weber Sand Unit which has been in effect since 1957.

Environmental Consequences of the Proposed Action: The cementing procedure of the proposed actions isolates the formations and will prevent the migration of gas, water, and oil between formations. Adherence to Chevron's "H2S Contingency Plan" will minimize potential hazards associated with H2S. Development of these wells will deplete the hydrocarbon resources in the targeted formation.

Environmental Consequences of the No Action Alternative: None

Mitigation: none

PALEONTOLOGY

Affected Environment: all of the proposed well locations, the well tie pipelines and the proposed manifold header are located in an area generally mapped as Mancos Shale (Tweto 1979) which the BLM has classified as a Condition II formation meaning while it is known to produce occasional fossils the vast majority of what has been found to date are marine invertebrates and are not considered scientifically important. Rarely, vertebrate fossils may occur which would make any such fossil scientifically important.

Environmental Consequences of the Proposed Action: It is possible that during the course of pad construction, reserve/blooiie pit excavation or pipeline trenching that invertebrate fossil could be encountered. There is a very slight possibility that vertebrate fossils could be encountered which could be of scientific importance.

Environmental Consequences of the No Action Alternative: There would be no new impacts to fossil resources under the No Action Alternative.

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

RANGELAND MANAGEMENT

Affected Environment: The proposed action is located in the Coal Oil Basin section of the Artesia allotment (06308), which is authorized for sheep use by Morapos Sheep Company. Grazing use by sheep in the allotment can be authorized from December 1st through April 20th.

Soils within the project area are principally a Billings Silty Clay Loam (Alkaline Slope ecological site) and Chipeta Silty Clay Loam (Clayey Salt-desert ecological site), which are dominated by a salt tolerant desert shrub and grass community. These brush/grass communities are utilized by sheep for meeting forage requirements, particularly during winter months. Soils in Coal Oil Basin typically have a high clay content that are moderate to highly erosive and receives low precipitation with rapid runoff, thus limiting forage production and hampering re-vegetation efforts.

Drought conditions, outside of this current year, have been very prevalent within the Coal Oil Basin area, which has hindered successful establishment of reclaimed plant species of other related disturbances in this area. Therefore, undesirable and invasive annual plant species (i.e. halogeton, cheatgrass) have become dominate in a portion of these disturbed areas which provide little forage and/or resource value.

Environmental Consequences of the Proposed Action: The individual proposed action would have minimal impacts on the authorized grazing use because the amount of new surface disturbance (37.72 BLM acres) is nominal in regards to the scale of the allotment (44,026 BLM acres).

The 37.72 BLM acres of disturbance can be broken down into long-term and short-term disturbances (with successful rehabilitation). Long-term disturbances include 21.86 BLM acres associated with well pads and 2.00 disturbed BLM acres from road construction/upgrades, thus a total of 23.86 acres of long-term disturbance. This acreage would decrease with well pad reclamation outside of the operational area. The remaining 13.86 BLM acres are short-term disturbances associated with pipelines.

Long-term forage losses associated with the individual proposed action are estimated at 2 active Animal Unit Months (AUMs) due to a reduction of forage availability. An AUM is the amount of forage necessary for the substance of 5 sheep (1 cow) for a period of 1 month. Previously this allotment has entailed considerable impacts from oil and gas activities, which have resulted in a reduction and fragmentation of available rangelands and in a loss of forage for grazing use.

Short-term soil and vegetation disturbances (13.86 acres) would be offset in the long-term by successfully reclaiming the disturbed area with a seed mix that is suited for this ecological site. Therefore, a forage source for livestock would occur upon successfully reclaimed pipelines.

As this area has a component of cheatgrass and halogeton (undesirable, non-native, and annual plant species) within the plant community, successful re-vegetation efforts would slightly increase desirable forage species within the rangelands. Without successful reclamation of

seeded species within this harsh rangeland, a potential exist to increase the ground cover of undesirable plant species that invade disturbed sites, thus decreasing available forage.

If the proposed action was authorized during the grazing period, it would have some impacts while sheep are grazing. This is in part due to the increased activity associated with the development of the proposed action and decrease in rangelands available for grazing. Also, BLM grazing permit holders have experienced injury and losses of livestock due to heavy truck travel and inadequate fencing of disposal pits at the pads. Other impacts to livestock grazing may include such influences as a modification in sheep distribution, reduction in available forage, injury/loss to livestock, and impediments to livestock grazing and movement.

Overall, a slight positive benefit would be received through successful re-vegetation efforts on pipelines, thus increasing preferred forage plants within this mid to low producing rangeland. However, the cumulative impacts from past, present, and possible future oil and gas activities may have a long-term effect on the native rangeland's carrying capacity, thus influencing authorized AUMs. This possible affect would be determined during the grazing permit renewal process which includes an evaluation of forage capacity available for livestock. It is foreseeable that the grazing permit holder could loose a portion of permitted active AUMs due to a loss of forage and fragmentation of the rangelands associated with oil and gas development within the authorized BLM grazing allotment.

Environmental Consequences of the No Action Alternative: None

Mitigation: Any livestock control facilities and/or rangeland improvements impacted during this operation will be replaced or repaired to their prior condition.

REALTY AUTHORIZATIONS

Affected Environment: The wells fall within the Rangely Weber Sand Unit. Those actions taken by Chevron USA within the unit do not require ROWs.

Environmental Consequences of the Proposed Action: Seven of the ten wells; FA Larson #3X, MC Hagood A21X, AC MCLaughlin 92X, AC MCLaughlin 90X , AC MCLaughlin 88X and fee wells Associated Wells A 4X and A 3X are designated as producer wells. These wells will require electrical power after completion. If the power is provided by a third party, i.e. Moon Lake Electric, and the power lines cross public lands, a ROW will be required.

Environmental Consequences of the No Action Alternative: none

Mitigation: Third party providers of electrical power must apply for and receive authorization for construction of power lines crossing public lands.

VISUAL RESOURCES

Affected Environment: The proposed actions are located in an area with a VRM IV classification. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Environmental Consequences of the Proposed Action: The proposed actions could be visible to a casual observer traveling along SH 64 for brief periods of time. Since the Chevron oil field consists of numerous producing well pads, the proposed action would not dominate the view or be the major focus of attention. The applicant proposes to paint all above ground facilities an environmental friendly color to minimize the contrast with the surrounding vegetation and land features. The level of change to the characteristic landscape would be less than high and the objectives of the VRM IV classification would be retained.

Environmental Consequences of the No Action Alternative: There would be no environmental impacts.

Mitigation: None

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts from oil and gas development were analyzed in the White River Resource Area Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) completed in June 1996. Current development, including the proposed action, has not exceeded the cumulative impacts from the foreseeable development analyzed in the PRMP/FEIS.

REFERENCES CITED:

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Topper, R., K.L. Spray, W.H. Bellis, J.L. Hamilton, and P.E. Barkmann. 2003. Groundwater Atlas of Colorado, Special Publication 53. Prepared for State of Colorado Department of Natural Resources, Division of Minerals and Geology. Colorado Geological Survey. Denver, Colorado.

Tweto, Ogden

1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

PERSONS / AGENCIES CONSULTED: None

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Nate Dieterich	Hydrologist	Air Quality
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern
Tamara Meagley	Natural Resource Specialist	Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources Paleontological Resources
Jed Carling	Rangeland Management Specialist	Invasive, Non-Native Species
Lisa Belmonte	Wildlife Biologist	Migratory Birds
Lisa Belmonte	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Melissa J. Kindall	Hazmat Collateral	Wastes, Hazardous or Solid
Nate Dieterich	Hydrologist	Water Quality, Surface and Ground Hydrology and Water Rights
Lisa Belmonte	Wildlife Biologist	Wetlands and Riparian Zones
Chris Ham	Outdoor Recreation Planner	Wilderness
Nate Dieterich	Hydrologist	Soils
Jed Carling	Rangeland Management Specialist	Vegetation
Lisa Belmonte	Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	Outdoor Recreation Planner	Access and Transportation
Ken Holsinger	Natural Resource Specialist	Fire Management
Bob Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Jed Carling	Rangeland Management Specialist	Rangeland Management
Linda L Jones	Realty Specialist	Realty Authorizations
Chris Ham	Outdoor Recreation Planner	Recreation
Keith Whitaker	Natural Resource Specialist	Visual Resources
Valerie Dobrich	Natural Resource Specialist	Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2006-047-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve development of the wells and associated access roads, header manifold and flowlines as described in the proposed action, with the addition of the mitigation measures listed below. This development, with mitigation, is consistent with the decisions in the White River ROD/RMP, and environmental impacts will be minimal.

MITIGATION MEASURES: 1. The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. All disturbed areas will be immediately covered with available woody debris and revegetation efforts will follow as outlined in the vegetation section of this document.

2. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate

3. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has

been completed, the operator will then be allowed to resume construction.

4. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

5. The applicant shall monitor the disturbed and reclaimed areas for the presence of invasive, non-native, and/or noxious plant species that have become established as a result of the proposed action. The applicant will be responsible for controlling cheatgrass, noxious weeds, and/or problem weeds should they occur and/or increase in density as a result of the proposed action.

6. Upon detection of noxious, non-native, and/or invasive plant species, the applicant will control their presence before seed production using materials and methods as outlined in the RMP and/or authorized in advance by the White River Field Office Manager. Application of herbicides must be under field supervision of an EPA certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

7. It will be the responsibility of the operator to eliminate migratory bird access to reserve pits that store or are expected to store fluids that pose a risk to these birds (e.g., waterfowl, wading birds, raptors, and songbirds) during drilling and completion activities and until such pits are reclaimed. Exclusion methods may include netting, the use of "bird-balls", or other alternative methods that effectively eliminate migratory bird access to pit contents and meet BLM-approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to eliminate migratory bird use two weeks prior to when drilling activities are expected to begin. The BLM approved method will be applied within 24 hours after drilling activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to a White River Field Office Petroleum Engineer Technician immediate.

8. With the exception of site 1704, all earthwork will be conducted outside the period of 1 April to 15 July to avoid the remote chance of disrupting the reproductive activities of ferrets, burrowing owl, and prairie dogs. All flowlines and rights-of-way involved in this action will be reclaimed and reseeded with the recommended seed blend listed in the proposed action.

9. To avoid intersecting large numbers of prairie dog burrows associated with flowline trenches, Chevron will offset those flowlines that parallel existing flowlines by 15 or more feet.

10. The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

11. The operator will be responsible for complying with all local, state, and federal water quality regulations. Under Phase I Stormwater Regulations, the Environmental Protection Agency (EPA) has required National Pollution Discharge Elimination System (NPDES) permit coverage for stormwater discharges from construction activities that disturb five or more acres. The operator will obtain a phase I permit (if they have not already done so) and provide its EPA approved

Stormwater Pollution Prevention Plan (SWPPP) to the BLM. Any operations resulting in discharges of fill material (e.g. fill material generally include, without limitation: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction) involving waters of the US (drainages shown as blue lines on 1:24,000 maps) will require a Army Corps 404 permit whether the work is permanent or temporary. The operator will also be required to provide the BLM with documentation that all required permits were obtained.

12. All surface disturbing activities will strictly adhere to “Gold Book” surface operating standards for oil and gas exploration and development (copies of the “Gold Book” can be obtained at the WRFO). Following abandonment of the well pad all disturbed surfaces will be recontoured to the original grade promptly covered with a sufficient amount of woody debris (if available) and seeded with the appropriate seed mixture as outlined in the vegetation section of this document.

13. To mitigate potential surface erosion at well pads, interim reclamation will be required. Interim reclamation will consist of all excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilized on slopes exceeding 5% (e.g. fill slopes, ephemeral drainages, etc...).

14. To mitigate potential contamination of local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment is suggested to intercept such contaminants prior to contacting soils.

15. All construction must comply with “Gold Book” surface operating standards for Oil and Gas development.

16. Vegetation removed for installation of the surface line will be immediately spread back over the disturbed area following construction. Revegetation efforts using a BLM specified seed mixture will follow as outlined in the vegetation section of this document.

17. Given the salt concentration of the impacted soils, the operator will be responsible for monitoring salts leaching from soils. If large salt deposits begin to appear, the operator will notify BLM, together they will coordinate the application of best management practices to help mitigate the problem.

18. Promptly re-vegetate all disturbed areas outside of the well operation and access roads, including all cut and fill slopes and topsoil stockpiles, with the proposed seed. Seeding rates in the RMP and proposed table are shown as pounds of Pure Live Seed (PLS) per acre and apply to drill seeding. For broadcast application, double the seeding rate and then harrow to insure seed coverage. Applied seed must be certified and free of noxious weeds and seed certification tags must be submitted to the Area Manager within 30 days of seeding. The applicant will be responsible for controlling cheatgrass, noxious weeds, and/or problem weeds should they occur

and/or increase in density as a result of the proposed action. To control undesirable plant species, the applicant will use materials and methods as outlined in the RMP or authorized in advance by the White River Field Office Manager.

19. The applicant shall be required to achieve a reclamation success rate of sufficient vegetative ground cover from reclamation plant species within three growing seasons. The reclamation shall be comparable of that of the nearby undisturbed plant communities at a Potential Natural Community (PNC) state in relation to the seed mix as deemed appropriate by the BLM.

20. It is recommended that all flowlines, gas/water lines and rights-of-way associated with the proposed action be reclaimed and reseeded using the appropriate seed blend listed in the proposed action.

21. With the exception of necessary pipeline maintenance, it is recommended that Chevron deter all vehicle traffic along those rights-of-way associated with the proposed action.

22. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO).

Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

23. Any livestock control facilities and/or rangeland improvements impacted during this operation will be replaced or repaired to their prior condition.

24. Third party providers of electrical power must apply for and receive authorization for construction of power lines crossing public lands.

NAME OF PREPARER: Tamara Meagley

NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: 
Field Manager

DATE SIGNED: 3/1/06

ATTACHMENTS: Location map of the proposed action.
Existing roads, the well locations, header manifold and proposed flowline routes are shown on Map attached.

Location Map of the Proposed Action CO-110-2006-047-EA

